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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,087	10/17/2001	Ajay Chandra V. Gummalla	1875.1340000	4357

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WASHINGTON, DC 20005

EXAMINER

PARK, JUNG H

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

57

Office Action Summary	Application No. 09/978,087	Applicant(s) GUMMALLA ET AL.	
	Examiner Jung Park	Art Unit 2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Claims 1-24 are pending for the examination.

Claim Objections

2. Claims 1, 11, 13, 15, 17 and 18 are objected to because of the following informalities:

In claim 1, lines 4, 5 and 8, the "downstream receivers" should be changed to -- upstream receivers -- and line 13, the "upstream receiver" should be changed to -- downstream receiver --. The reason is that within an access network, the transfer of data from the end users to the service provide is generally descried as "upstream" communication and, conversely, the transfer of data from a service provider to the end users may be generally described as "downstream" communication (see spec, para. 0002).

The same change should be made to claims 11, 13, 15, 17 and 18.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-24 are rejected under 35 U.S.C 103(a) as being unpatentable over Petersen et al. (U.S. Pub. No. 2001/0012293, "Petersen").

Regarding claim 1, a point-to-multipoint network interface (figure 5 or figure 6) for transferring data packets (*data packet* figure 5 and 6) between a plurality of end user devices (505, 515, 510 and 520 figure 5) and a higher level node (445 and 435 figure 4), wherein each of the data packets includes a destination address (*header* figure 6), comprising:

a plurality of upstream receivers (540 figure 5), wherein each of the plurality of upstream receivers receives data packets from a respective one of the plurality of end user devices;

a multiplexer (203 figure 5), wherein the multiplexer multiplexes the data packets received by the plurality of upstream receivers into a first stream of data packets;

an upstream transmitter (*between 530 and 535* figure 5; col. 5, para. 0045), that transmits the first stream of data packets to the higher level node regardless of the destination address of the data packets in the first stream of data packets;

a downstream receiver that receives a second stream of data packets from the higher level node (525 figure 6);

a demultiplexer (213 figure 6); and

a plurality of downstream transmitters (*after 635* figure 6); wherein the demultiplexer demultiplexes the second stream of data packets into individual data packets and selectively provides each of the individual data packets to one of the plurality of downstream transmitters for transmission to a respective one of the plurality of end user devices (*between 635 and 605* figure 6).

Petersen fails to teach a point-to-multipoint interface which has both multiplexing and demultiplexing functions. However, he teaches multiplexer in figure 5 and demultiplexer in figure 6. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine both multiplexer and demultiplexer in a system because one would be motivated to combine both functions into a system in order to have both functions in one embodiment for transferring data packets between end users and a higher level node such as a service provider.

Regarding claim 2, at least one of the plurality of upstream receivers receives data packets at a different rate (505, 515, 510, 520 figure 5) than the rate at which at least one of the plurality of upstream transmitters transmits data packets (535 figure 5).

Regarding claim 3, the multiplexer comprises: packet memory that stores the data packets (540 figure 5) received by the plurality of upstream receivers; and a header processor (550 figure 5) that arbitrates the storage of the data packets received by the plurality of upstream receivers in the packet memory and controls the writing of the data packets stored in the packet memory to the upstream transmitter to generate the first stream of data packets.

Regarding claim 4, the header processor controls the writing of the data packets stored in the packet memory to the upstream transmitter by reading a priority tag (figure 2B; *CID* col. 3, para. 27) from a header of each of the data packets stored in the packet memory and permitting data packets with a priority tag corresponding to a higher priority to be written to the upstream transmitter before data packets with a priority tag corresponding to a lower priority.

Regarding claim 5, the demultiplexer comprises: a packet memory (635 figure 6) that stores individual data packets from the second stream of data packets; a packet

distributor that reads the destination address of each of the individual data packets stored in the packet memory and, based on the destination address of each of the individual data packets, selectively routes each of the individual data packets to one of the plurality of downstream transmitters for transmission to a respective one of the plurality of end user devices (col. 2, para. 0025).

Regarding claims 6, 7 and 8, Petersen is silent on the packet distributor mapping the destination address of each of the individual data packets to a corresponding hardware address identifying one of the plurality of end user devices. However, the hardware address is MAC (Media Access Control) address to find one of the end user devices. The MAC is a unique identifier attached to most forms of networking equipment. Most of layer 2 network protocols such as ATM link layer use one of three numbering spaces managed by the IEEE. Therefore, it is inherent that if the data packet is routed to one of end user devices (*computer 605* figure 6) it should map the MAC address to transfer data packets to the end user device.

Regarding claims 9 and 10, they are claims corresponding to claim 3 and are therefore rejected for the similar reasons set forth in the rejection of claim 3.

Regarding claims 11, 13 and 15, they are claim corresponding to claims 1 and 3 and are therefore rejected for the similar reasons set forth in the rejection of claims 1 and 3.

Regarding claims 12 and 20, they are claims corresponding to claims 3 and 4 and are therefore rejected for the similar reasons set forth in the rejection of claims 3 and 4.

Regarding claims 14, 16 and 19, they are claims corresponding to claim 2 and are therefore rejected for the similar reasons set forth in the rejection of claim 2.

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Regarding claims 17, 18 and 24, they are claims corresponding to claim 1 and are therefore rejected for the similar reasons set forth in the rejection of claim 1.

Regarding claim 21, it is claim corresponding to claim 5 and is therefore rejected for the similar reasons set forth in the rejection of claim 5.

Regarding claim 22, it is claim corresponding to claim 6 and is therefore rejected for the similar reasons set forth in the rejection of claim 6.

Regarding claim 23, it is claim corresponding to claims 5 and 6 and is therefore rejected for the similar reasons set forth in the rejection of claims 5 and 6.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - U.S. Patent (6,072,797) to Fletcher shows about a method and apparatus and computer program products for aggregated transmission groups in high speed network..
 - U.S. Pub. No. (2002/0196802) to Sakov et al. show data forwarding method and apparatus.
 - U.S. Pub. No. (2001/0003528) to Matsumura et al. show multi-rate ATM switching system and method.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 7:15-4:45.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

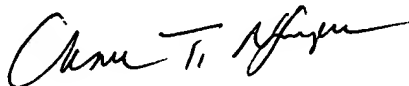
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

Jung Park
Patent Examiner
Art Unit 2661

JP

July 11, 2005



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